(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 546 369 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **92119910.5**

(51) Int. Cl.5: **B65D 75/58**, B65D 83/08

(22) Date of filing: **23.11.92**

(30) Priority: **12.12.91 IT MI913341**

(43) Date of publication of application:
16.06.93 Bulletin 93/24

(84) Designated Contracting States:
DE ES FR GB IT

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(54) Resealable dispenser-container for moist tissues.

(57) Device for closing several times, substantially airtightly, the delivery opening of a container (1) for moist material, in particular a container for sanitary tissues or similar moist material.

A device comprises two flexible elements, the first (4) of which is provided with pressure adhesive of the repositionable type, while the second (6), fastened to the former, is obtained by partially die-cutting the surface of the container in correspondence with the delivery opening.

Inside said first closing element there are provided portions (5), defined by cut lines not closed on the opposite side with respect to the start edge of lifting, which remain adhering to the container during the lifting of the closing device. Said portions extend longitudinally towards the start edge of lifting and result perpendicularly aligned to the direction of lifting of the closing device in a way as to constitute for the latter a stop line to lifting and a hinging line.

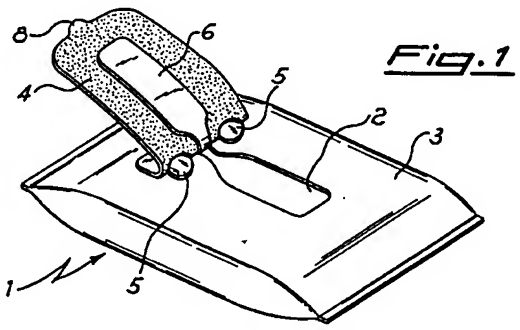

Fig.1

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The present invention concerns an airtight closing device for the delivery opening of a container.

More in particular, the invention concerns a device for substantially airtightly closing several times the delivery opening of a container, specially of a dispenser of sanitary tissues or similar moist material, in order to avoid evaporation of the liquids it is impregnated with.

Several types of containers for sanitary tissues or other moist material have been known for long time.

A first type of containers is the one made of rigid plastic material to be used with tissues which engage to one another in a way that the removal of the first tissue causes the end of the subsequent one to be drawn to the removal position.

The airtight closure in this case is ensured by an appropriate flange configuration of the opening and of the closing cap, both made of rigid plastic material and snapwise engageable. These containers however present the disadvantage to be difficult to handle and hardly usable as pocket containers.

A solution to this problem is the one represented by flexible containers, e.g. of the type as that described in the patent EP-B-0030348 filed by NAKAMURA. In this configuration a delivery opening of single tissues is foreseen, not engaged to one another, and the closing device consists of a limb of flexible and impermeable material positioned in correspondence with the delivery opening of the container and provided with a layer of pressure adhesive of the repositionable type.

Said element is fastened in a permanent manner to the container, by way of permanent bonding or adhesive, in correspondence with one of its ends, in a position far from the delivery opening. Furthermore to this adhesive limb a closing "cap" is fastened, consisting of an element made of the same material as the container and generally obtained by die-cutting along a closed line the aforesaid delivery opening.

The realisation of such a container involves an operation of permanent bonding or glueing of the closing limb to the container surface, an operation which, besides being expensive and complicated, may also deform container and limb in the fastening area and may moreover introduce a different thickness from that of the repositionable adhesive.

Therefore decreased airtightness of the closure occurs and the evaporation speed of the volatile liquid impregnating the tissues results considerably accelerated. In some cases the unintentional detatchment of the closing adhesive limb may even take place.

The patent EP-B-0247031, filed by CHANG, presents a closing device for flexible containers comprising a closing limb, only provided with repositionable adhesive, wherein there are provided two side small tongues in correspondence with the opposite side with respect to the lifting side of said limb, to form a hinging line which stops the lifting course, in absence of bonding stripes or permanent adhesive in said position.

Nevertheless the lateral position of said tongues on the closing limb does not succeed in imparting the necessary rigidity to the hinging line around which the closing limb rotates during closing and opening operations. This causes an irregular positioning of the limb during the closing stage, due to possible deformations thereof in correspondence with the hinging line, and consequently a poor sealing of the closing device.

An object of the present invention is that of solving the aforesaid problems by proposing a closing device for flexible containers of the aforedescribed type which allows to perform several closing operations substantially maintaining airtightness for the whole useful life of the container.

Said object is achieved by means of the present invention which concerns a device for substantially airtight closure of an opening in a container, specially in a dispenser of sanitary tissues or similar moist material, of the type comprising a first flexible closing element, repositionable, arranged in correspondence with the delivery opening of said dispenser and with the area surrounding it; and a second flexible closing element, obtained by die-cutting said delivery opening, having position and size corresponding to those of said opening, said first element being fastened to said dispenser and to said second closing element by means of pressure-fixable removable adhesive, characterized in that: said first flexible element is provided with a uniform layer of said pressure-fixable removable adhesive only and comprises, on the opposite side with respect to the lifting side, two or more shaped nicks, defining as many portions of flexible element which remain adhering to the container during the lifting of the flexible element and present a longitudinal course with free end turned towards the start edge of the lifting, the outlines of said portions not intersecting the perimetral line of said first element; in that said portions are aligned perpendicularly to the lifting direction of said first element and jointly define a hinging line around which said first element is moved; and in that said second flexible closing element is integral to the body of said container in correspondence with a not die-cut portion of the perimeter of said delivery opening, said not die-cut portion of the perimeter of said delivery opening extending beyond, or being aligned with, said hinging line.

The internal position of said portions, with respect to the perimetral edge of said first flexible closing element, and their alignment perpendicu-

larly to the lifting direction impart higher rigidity to the flexible element in correspondence with the hinging line, avoiding permanent deformations during opening and allowing a better positioning therof during the closing step.

Moreover, mass production of such devices is achieved in a simple and inexpensive way because the first flexible element is provided with a uniform layer of a single adhesive type.

This and other advantages will become more evident from the following description made with reference to the accobbmpanying drawings given with illustrative and not limiting purposes, where:

- figure 1 is a perspective view of a type of container provided with a closing device according to a preferred embodiment of the invention;
- figure 2 is a plan view of the preferential embodiment of the closing device according to the invention; and
- figure 3 is a plan view of further embodiments of the closing device according to the invention.

Figure 1 shows a flexible container 1 for sanitary tissues provided with a delivery opening 2 foreseen on the upper wall 3 of the container. In correspondence with the opening 2 there is provided a first closing element 4, constituted by a limb of flexible material provided on its front side with removable pressure fixable adhesive. On the lifting side there is a small grip tongue 8 whose lower portion is preferably but not necessarily free of adhesive.

The closing element 4 comprises at least two nicked portions 5 which extend longitudinally towards the lifting side, obtained by die-cutting a backwardly open line or by other similar operations.

The closing element 4 is temporarily fixable to the upper wall 3 of the container, and repositionable theron, after each opening by means of said pressure adhesive. The adhesive, of known type commercially available, is applied to the closing element 4, but can obviously be applied on the surface 3 of the container 1 as well in correspondence with the area involved by said closing element 4.

According to an advantageous feature of the present invention, the portions 5 are positioned inside the closing element 4, this means that the die-cut lines do not intersect the perimetral line of the closing element 4 and result to be perpendicularly aligned with the lifting direction of the closing element 4 to form a hinging line where the stop of said closing element 4 takes place during its lifting and around which the element 4 is then rotated to make the access to the content easier and finally to close the container.

The portions 5 advantageously present a large base in correspondence with the non cut back part to favour the stop of the closing element 4 during lifting.

In absence of any bonding stripe and/or permanent adhesive, the portions 5 stop the lifting of the closing element 4, avoiding possible tearings thereof and favour its rotation as far as a position allowing the delivery of the content.

In the preferential embodiment shown in figure 1 the closing element 4 is fastened to a second flexible closing element 6, having size substantially corresponding to that of the opening 2 and constituting a closing "cap" fastened to said first element 4 in correspondence with the opening 2.

Said second element 6 is preferably made of the same material as the container 1, obtained from the die-cutting of the opening 2, and generally forms a single piece with the surface 3 of the container, being fastened to the latter by means of a not die-cut portion 7 of the perimeter of the opening 2.

In the preferred embodiment the not die-cut portion 7 extends substantially beyond said hinging line defined by the portions 5.

Alternatively, the not die-cut portion 7 is aligned with said hinging line defined by the portions 5 to cooperate to the stop of the closing device during lifting.

Figure 2 represents in plan the closing element 4 superimposed to the second closing element 6, the latter being identified by a dashed line, according to the preferential embodiment shown in figure 1, wherein the portions 5 are defined by not closed cut lines with curvilinear ends, turned inwards, which extend along arcs of circumference.

Said arrangement provides the closing element 4 with excellent resistance to tearings during the lifting stage of same as far as the hinging line defined by said portions 5.

Of course other possible configurations of the closing device can be envisaged allowing, according to the invention, to stop the closing element 4 during lifting and favouring its rotation. Some of them, shown in figure 3, present the portions 5 obtained according to different die-cut lines which end with transverse sections parallel to the lifting side or with holes.

The internal position of the portions 5, with respect to the perimetral edge of the closing element 4, allows the stop and subsequent rotation of the latter in correspondence with a precise and effective hinging line, avoiding possible tearings and favouring better airtightness of the closing device for the whole duration of the useful life of the container.

Claims

1. A device for substantially airtight closure of an opening in a container, specially in a dispenser of sanitary tissues or similar moist material, of the type comprising a first flexible closing element, repositionable, arranged in correspondence with the delivery opening of said dispenser and with the area surrounding it; and a second flexible closing element, obtained by die-cutting said delivery opening, having position and size corresponding to those of said opening, said first element being fastened to said dispenser and to said second closing element by means of pressure-fixable removable adhesive, characterized in that: said first flexible element is provided with a uniform layer of said pressure-fixable removable adhesive only and comprises, on the opposite side with respect to the lifting side, two or more shaped nicks, defining as many portions of flexible element which remain adhering to the container during the lifting of the flexible element and present a longitudinal course with free end turned towards the start edge of the lifting, the outlines of said portions not intersecting the perimetral line of said first element; in that said portions are aligned perpendicularly to the lifting direction of said first element and jointly define a hinging line around which said first element is moved; and in that said second flexible closing element is integral to the body of said container in correspondence with a not die-cut portion of the perimeter of said delivery opening, said not die-cut portion of the perimeter of said delivery opening extending beyond, or being aligned with, said hinging line.

2. A device according to claim 1, characterized in that the outlines of said portions are defined by open continuous lines, ending on the back part, at their ends, with curvilinear sections.

3. A device according to claim 2, characterized in that said curvilinear sections are arcs of circumference turned towards the inside of said portions.

4. A device according to claims 1 or 2, characterized in that the outlines of said portions are defined by open continuous lines ending on the back at their ends with transverse sections parallel to the lifting side.

5. A device according to claims 1 or 2, characterized in that the outlines of said portion or portions are defined by open continuous lines ending on the back, at their ends, with holes.

6. A container for moist material provided with a delivery opening, characterized in that it comprises an airtight closing device as described in claims 1 to 5.

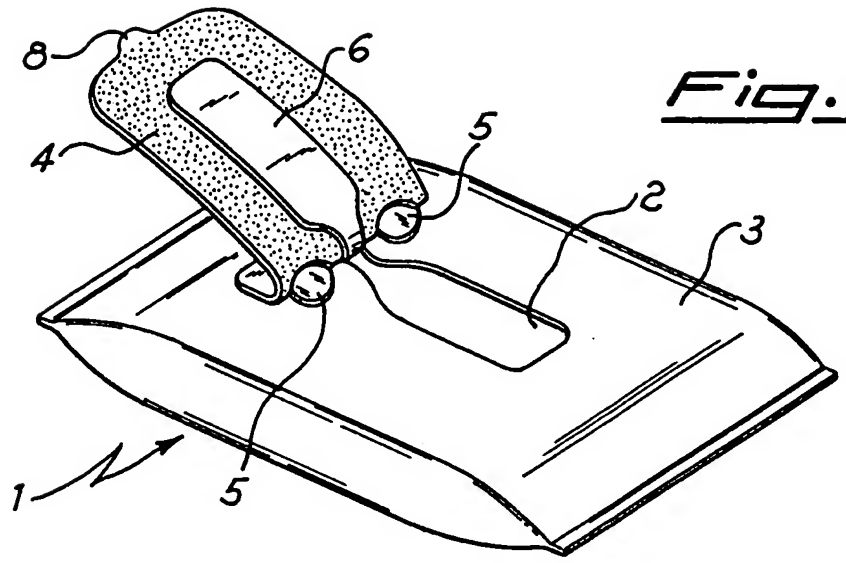

Fig.1

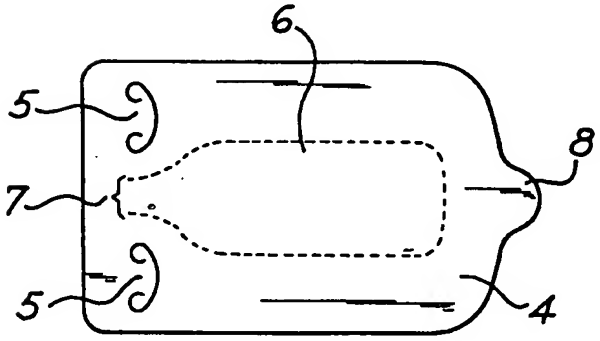

Fig.2

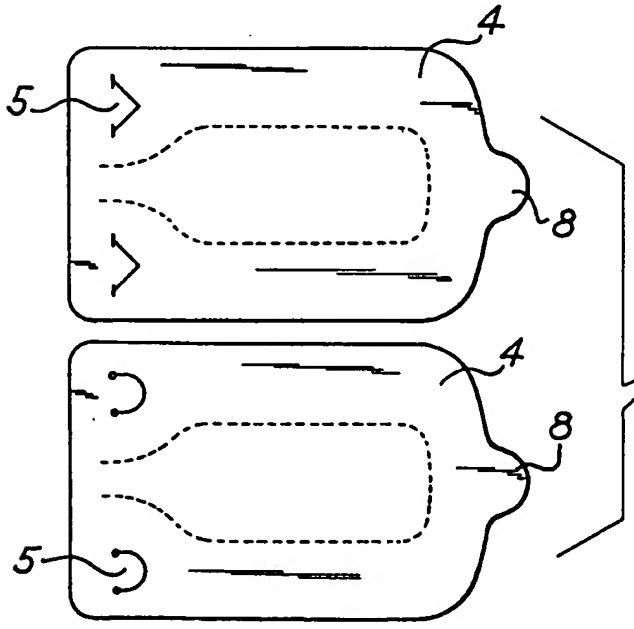

Fig.3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 92 11 9910

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y A	GB-A-2 238 769 (KANG NA HSIUNG) * page 7, line 8 - page 8, line 4 * * page 10, line 22 - page 11, line 7; figures 2,6 *	1-4,6 5	B65D75/58 B65D83/08
A	WO-A-9 104 920 (PAXAN) * page 5, line 20 - page 5, line 37; figures 2,5 *	5	
D,Y A	WO-A-8 702 645 (CHANG) * page 7, line 19 - page 7, line 32; figures *	1-4,6 5	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	12 MARCH 1993	NEWELL P.G.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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